BELDEN
SENDING ALL THE RIGHT SIGNALS



# Part Number: 1583ENH

## Category 5e Nonbonded-Pair Cable

### Product Description

CAT5e (100MHz), 4-Pair, U/UTP Unshielded, Premise Horizontal Cable, 24 AWG solid bare copper conductors, Polyethylene insulation, LSZH jacket, RJ-45 compatible

### Technical Specifications

#### Product Overview

| | |
|---|---|
| Environmental Space: | Indoor - Euroclass Dca |
| Suitable Applications: | Horizontal and building backbone cable; Support current and future Category 5e applications, such as: 1000Base-T (Gigabit Ethernet), 100 Base-T, 10 Base-T, FDDI, ATM |

#### Physical Characteristics (Overall)

**Conductor**

| Element | AWG | Stranding | Material | No. of Pairs |
|---|---|---|---|---|
| Individual pair | 24 | Solid | BC - Bare Copper | 4 |

| | |
|---|---|
| Conductor Count: | 8 |
| Total Number of Pairs: | 4 |
| Conductor Size: | 24 AWG |

**Insulation**

| Element | Type | Material | Nominal Diameter |
|---|---|---|---|
| Individual pair | Dielectric | Polyethylene | 0.9 mm |

**Color Chart**

| Number | Color |
|---|---|
| Pair 1 | White/Blue & Blue |
| Pair 2 | White/Green & Green |
| Pair 3 | White/Orange & Orange |
| Pair 4 | White/Brown & Brown |

**Outer Jacket Material**

| Material | Nominal Diameter | Diameter +/- Tolerance |
|---|---|---|
| LSZH / FRNC | 4.9 mm | 0.3 mm |

#### Construction and Dimensions

| | |
|---|---|
| Min Elongation at Breakof Conductors: | 10 % |
| Min Elongation at Breakof Insulation: | 100 % |

**Cabling**

| Description |
|---|
| 4 pairs twisted together |

| | |
|---|---|
| Min Elongation at Breakof Jacket: | 100 % |
| Min Tensile Strength of Jacket: | 9 MPa |

#### Electrical Characteristics

**Conductor DCR**

| Max. Conductor DCR | Max DCR Unbalanced Between Pairs [%] | Max. DCR Unbalanced Within Pair [%] |
|---|---|---|

| | | |
|---|---|---|
| 95 Ohm/km | 4 % | 2 Ohm |

**Capacitance**

| Max. Capacitance Unbalance | Max. Mutual Capacitance |
|---|---|
| 1,600 pF/m | 56 pF/m |

| | |
|---|---|
| Shielding: | U/UTP - Unshielded |

**Impedance**

| Nominal Characteristic Impedance |
|---|
| 100 Ohm |

**Delay**

| Max. Delay Skew | Min. Velocity of Propagation |
|---|---|
| 40 ns/100m | 60 % |

**High Freq**

| Frequency [MHz] | Max. Insertion Loss (Attenuation) | Min. NEXT [dB] | Min. PSNEXT [dB] | Min. ACR [dB] | Min. PSACR [dB] | Min. ACRF (ELFEXT) [dB] | Min. PSACRF (PSELFEXT) [dB] | Min. RL (Return Loss) [dB] | Min. TCL [dB] | Min. ELTCTL [dB] |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 MHz | 2.1 dB/100m | 65.3 dB | 62.3 dB | 63.2 dB | 60.2 dB | 64 dB | 61 dB | 20 dB | 40 dB | 35 dB |
| 4 MHz | 4 dB/100m | 56.3 dB | 53.3 dB | 52.32 dB | 49.3 dB | 52 dB | 49 dB | 23 dB | 34 dB | 23 dB |
| 10 MHz | 6.3 dB/100m | 50.3 dB | 47.3 dB | 44 dB | 41 dB | 44 dB | 41 dB | 25 dB | 30 dB | 15 dB |
| 16 MHz | 8 dB/100m | 47.2 dB | 44.2 dB | 39.2 dB | 36.2 dB | 39.9 dB | 36.9 dB | 25 dB | 28 dB | 10.9 dB |
| 20 MHz | 9 dB/100m | 45.8 dB | 42.8 dB | 36.8 dB | 33.8 dB | 38 dB | 35 dB | 25 dB | 27 dB | 9 dB |
| 31.25 MHz | 11.4 dB/100m | 42.9 dB | 39.9 dB | 31.5 dB | 28.5 dB | 34.1 dB | 31.5 dB | 23.6 dB | 25.1 dB | 5.5 dB |
| 62.5 MHz | 16.5 dB/100m | 38.4 dB | 35.4 dB | 21.9 dB | 18.9 dB | 28.1 dB | 25.1 dB | 21.5 dB | 22 dB | |
| 100 MHz | 21.3 dB/100m | 35.3 dB | 32.3 dB | 14 dB | 11 dB | 24 dB | 21 dB | 20.1 dB | 20 dB | |

| | |
|---|---|
| High Freq Table Note: | Limits below 4MHz are for information only. |

**Current**

| Max. Recommended Current [A] |
|---|
| 1.5 A |

**Voltage**

| Voltage Rating [V] |
|---|
| 72 V |

## Temperature Range

| | |
|---|---|
| Installation Temp Range: | 0°C To +50°C |
| Operating Temp Range: | -30°C To +60°C |

## Mechanical Characteristics

| | |
|---|---|
| Bulk Cable Weight: | 28 kg/km |
| Max Recommended Pulling Tension: | 65 N |
| Min Bend Radius During Installation: | 40 mm |
| Min Bend Radius During Operation: | 20 mm |

## Standards

| | |
|---|---|
| ISO/IEC Compliance: | ISO/IEC 11801 Ed. 2.2:2002/A2:2010/C1:2011 |
| CPR Euroclass: | Dca-s2,d2,a1 |
| CENELEC Compliance: | EN 50173-1 Ed. 3:2011 |
| Data Category: | Category 5e |
| ANSI Compliance: | ANSI/TIA/EIA 568-B.2-1 (2002) |

## Applicable Environmental and Other Programs

| | |
|---|---|
| EU RoHS Compliance Date (yyyy-mm-dd): | 2004-01-01 |

## Flammability, LS0H, Toxicity Testing

| | |
|---|---|
| ISO/IEC Flammability: | IEC 60332-1 |
| Burning Load: | 285 kJ/m |
| Amount of Halogen acc. to IEC 60754-1 & EN50267-1: | Zero |

## Part Number

**Variants**

| Item # | Color |
|---|---|
| 1583ENH.10U305 | Black |
| 1583ENH.01305 | Blue |
| 1583ENH.01500 | Blue |
| 1583ENH.01U305 | Blue |
| 1583ENH.011000 | Blue |
| 1583ENH.001000 | Gray |
| 1583ENH.00305 | Gray |
| 1583ENH.00500 | Gray |
| 1583ENH.00B100 | Gray |
| 1583ENH.00U305 | Gray |
| 1583ENH.003570 | Gray, RAL 7032 |
| 1583ENH.02U305 | Green |
| 1583ENH.04500 | Orange |
| 1583ENH.04U305 | Orange |
| 1583ENH.07500 | Red |
| 1583ENH.07U305 | Red |
| 1583ENH.05U305 | Violet |
| 1583ENH.05500 | Violet |
| 1583ENH.09U305 | White |
| 1583ENH.03U305 | Yellow, RAL 1021 |
| 1583ENH.031000 | Yellow, RAL 1021 |

| | |
|---|---|
| Patent: | https://www.belden.com/resources/patents |

## History

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|---|---|
| Revision Number: | 3 |

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